REMARKS/ARGUMENTS

Favorable reconsideration of the present application is respectfully requested.

Claim 1 has been amended to recite that the member formed of carbon system material and the member formed of a high melting point metal carbide are "threadedly" connected at a connected portion. Basis for the threaded connection is found throughout the specification and in Claim 5.

Claim 1 has also been amended to recite an electrically insulating spacer fixed to the member formed of carbon system material, but not to the member formed of a high melting point metal carbide, and positioned to maintain a spacing between the member formed of a high melting point metal carbide and the member formed of carbon system material. Basis for this can be found at elements 11 (page 11, especially line 7) and 17 in the specification.

The amendment of Claim 1 to recite the threaded connection is believed to overcome the rejection of Claims 1, 6, 8 and 13 under 35 U.S.C. §102 as being anticipated by U.S. patent 1,823,706 (Staehle). In this regard, it is noted that no such threaded connection is taught or suggested in Staehle and that the rejection under 35 U.S.C. §102 based upon Staehle was not applied against Claim 3 which recited a threaded connection.

Claims 1-3 and 6-15 were rejected under 35 U.S.C. §103 as being obvious over U.S. patent 5,092,938 (Kanda et al.) in view of Staehle. The Examiner there alleged that Staehle would have rendered it obvious to have formed the rods 2 and 3 of Kanda et al. from a high melting point metal carbide and a carbon system material. However, it is submitted that no combination of the above references would have anticipated or rendered obvious the subject matter of any of the present claims.

Claim 1 now recites the electrically insulating spacer fixed to the member formed of carbon system material but not fixed to the member formed of a high melt point metal carbide, for example the member 11 in Figure 1 or the member 17 in Figure 2. This spacer

assures the necessary spacing between the member formed of carbon system material and the member formed of high melting point metal carbide. Fixing the spacer to the member formed of carbon system material assures that it will maintain a relative position such that it can provide the required spacing at a desired location, but the non-fixing of the spacer to the member formed of high melting point metal carbide compensates for differences in thermal expansion for the member formed of carbon system material and the member formed of high melting point metal carbide. This is not taught in any of the cited prior art.

For example, Kanda et al. discloses a thermocouple formed by rods 2 and 3 which are respectively composed of a W or W-Re base material for the rod member 2. The same materials, but with different percentage compositions, are used for the rod member 3 (column 7, lines 20-29). A spacer 14 is provided for maintaining the spacing of the rods, and a further spacer 14' may also be provided at the temperature measuring portion. However, in each case the rods 2 and 3 are mounted to the spacer or spacers in the same way – there is no description of the spacer being fixed to one of the rods but not the other. For example, the nature of the connection (fixed or non-fixed) is not described for the spacer 14 in Figure 1(a), but the figure illustrates both rods passing through the spacer 14 in the same way. The spacer 14' in Figure 3 is not described as being fixed or not fixed relative to the rods, whereas fixing of both rods is implicit from the structure shown in Figure 4. However, in no case is one rod shown to be fixed but the other not fixed. Thus, this feature of the claims is not taught in Kanda et al.

Staehle discloses a high temperature thermocouple formed of a tantalum carbide wire 2 within a graphite tube 1. One end of the wire 2 is "received" in the graphite tube in a manner which is not described in detail. An insulating plug 4 acts as a spacer but there is no description or disclosure of whether the spacer is fixed to either the wire 2 or the tube 1.

Accordingly, Staehle could provide no teaching for overcoming the shortcomings of Kanda et al. with respect to the amended claims.

Claims 1 and 16 were also rejected under 35 U.S.C. §103 as being obvious over Staehle in view of U.S. patent 6,458,218 (Savich). However, it is noted that Savich was cited to teach a method of producing a metal carbide member. It provides no teaching for an electrically insulating spacer and so could not overcome the shortcomings of Staehle with respect to the amended claims. Additionally, Savich does not teach the steps of Claim 16, i.e., covering a high melting point metal rod material with carbon powder, and compressing the same under high temperature conditions. The compression under high temperature conditions minimizes gaps between the metal and the carbide (page 16, lines 6-25). In contrast, heating occurs *after* compression in Savich (col. 4, lines 46-67).

The claims have been revised in light of the rejection under 35 U.S.C. §112, which is believed to be moot.

Since Claim 1 remains generic to both species and is believed to define over the prior art, it is respectfully requested that the nonelected Claims 4, 5 and 17 be included in any patent issuing from the present application.

Applicants therefore believe that the present application is in a condition for allowance and respectfully solicit an early notice of allowability.

Respectfully submitted,

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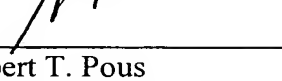

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